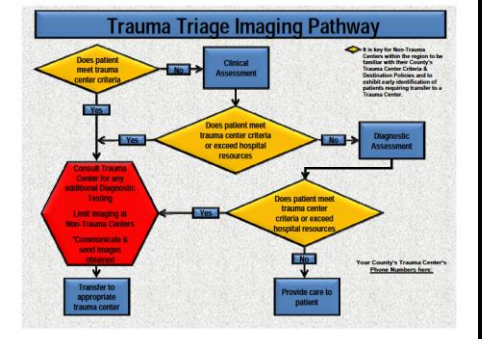
PEDIATRIC TRAUMA TRANSFER

Resources, Guidelines, Pathways and Surge

Challenges

- Almost half of injured pediatric patients are "walk-in" patients
- Brought by family to nearest hospital or clinic
- Decide :
  - Who to send
  - Why to send
  - When to send
  - How to send



Pediatric Trauma Interfacility Transfer Guidelines

I. Goal:
Guide the expedient and appropriate inter-facility transfer of pediatric patients from the first facility providing care to definitive care at a hospital with pediatric trauma care resources.

II. Definition:
A pediatric patient is anyone who has not reached their 15th birthday or anyone with an injury requiring specific pediatric expertise.

III. Criteria for Appropriate/Recommended Transfer:

Physiologic Criteria (as referenced in the ATLS manual and curricula)

1. Decreased or deteriorating neurologic status GCS < 14
2. Respiratory distress or failure
3. Endotracheal intubation and/or ventilatory support and children requiring anesthesia
4. Shock of any type, compensated or uncompensated
5. Injuries requiring blood transfusion
6. Care requiring any one of the following:
   a. Invasive monitoring (arterial and/or central venous pressure)
   b. Intracranial pressure monitoring
   c. Vasoactive medications

Anatomic Criteria

1. Fractures and penetrating injuries to an extremity which may be complicated by neurovascular and/or compartment injury
2. Fracture of two or more long bones (femur, humerus, tibia/fibula)
3. Suspected injury to the axial skeleton or spinal cord
4. Traumatic amputation and crush injuries
5. Significant head injury with any of the following either suspected or documented (No need to validate with imaging studies prior to transfer.):
   a. Basilar skull fractures with potential for cerebrospinal fluid leaks e.g., hemotympanum
   b. Open and/or penetrating head injuries
   c. Depressed skull fractures
   d. Decreased level of consciousness e.g., GCS < 14
   e. Intracranial hemorrhage or contusion

f. Suspected concussion syndrome with persistent symptoms (emesis, confusion and/or headache)

6. Penetrating (into the subcutaneous tissue) wounds to the head, neck, thorax, abdomen, pelvis or proximal extremity
7. Pelvic fracture
8. Blunt injury to the chest or abdomen
9. Ocular injuries
10. Degloving injuries especially with possible tendon injury

IV Guidelines for transfer

1. Hospital resources: If the child's injuries or potential injuries exceed or have the potential to exceed the resources available at the initial point of care, that child should be transferred expeditiously to a facility with the resources and experience to provide the optimal care for the pediatric patient. This recognizes that special skills, equipment and personnel are necessary for the optimal care of the pediatric patient.
2. Contact receiving trauma surgeon (or designated receiving physician): The trauma surgeon at the receiving trauma center should be contacted as soon as possible to discuss appropriate care and transfer.
3. Contact receiving trauma surgeon prior to diagnostic imaging. This should be done prior to diagnostics including imaging studies so that quality studies will be obtained without exposure to radiation.
4. Expeditious transfer: Collaborate with receiving facility regarding the specific mode of transportation and patient care requirements during transfer.
5. Transfer facility responsibilities: The sending facility will identify the accepting trauma surgeon and provide the trauma surgeon with a concise summary of the following:
   a. Age of patient
   b. Mechanism of injury
   c. Time of injury
   d. GCS
   e. List of injuries already diagnosed
   f. Hemodynamic stability
   g. List of interventions (including volume and type of fluids given)
   h. Proposed mode of transfer
   i. Diagnostic results, including radiographic imaging (if already completed)
6. Information to accompany patient: Hospital and healthcare facilities are strongly urged to establish inter-facility transfer agreements and establish feasible modes and mechanisms of transfer and to explore mechanisms of data collection and quality review. This would provide a mechanism for expedient and appropriate transfer to definitive care. (See attached template)

Washington State Department of Health Office of Emergency Medical Services & Trauma System

Template for an Inter-facility Transfer Check-list

Items to send with patient and transfer crew:

- ☐ (2) Face Sheet (name, address, etc)
- ☐ EMS Run Sheet (if available)
- ☐ ED Physician Notes (H&P or other document)
- ☐ Copies of lab work
- ☐ Copies of x-rays, ultrasounds, CT scan, etc (Forward electronically via VPN network if possible, Digital if available; or copies of images)
- ☐ Copy of ECG (if applicable)
- ☐ Radiologist reports on all imaging (if available)
- ☐ Copy of medication administration record
- ☐ Intake and output record for past 24 hrs (if applicable) or ED amounts
- ☐ (2) Copies of past 24 hrs of vital signs or ED record
- ☐ Copy of signed transport/transfer consent
- ☐ Discharge Dictation (if applicable)

Name of pt:_____ age:_____

Diagnosis:_____

Transfer to:_____

Accepting Physician:_____

Transferring Physician:_____

Transferring Hospital:_____

Transfer Level of care:
- ☐ Basic Life Support
- ☐ Advanced Life Support
- ☐ Pediatric Transport Team

Method of transfer:
- ☐ Ground BLS ambulance
- ☐ Medic or ALS unit
- ☐ Rotary Wing (helicopter)
  Name of Service:_____
- ☐ Fixed Wing (airplane)
  Name of Service:_____

- ☐ Family given written directions to facility
- ☐ Family given phone number of receiving unit or receiving Emergency Department
- ☐ Family given patient belongings
- ☐ Family contact phone number:_____

Opportunities

- Children are not little adults
- Good – many pediatric trauma patients are not even cared for at trauma centers
- Better – adult trauma centers are required to care for a minimum number of pediatric patients in order to be designated for pediatric care
- Best – a pediatric trauma center
- Establish transfer agreements in advance

Disaster Surge

- Same basic principles apply
- You may need to treat patients longer
- Send most in need of pediatric expertise first
- Review resources in advance
- One size does not fit all in pediatrics

Solutions

- Know your resources
  - Tool kit (D. Fendya paper in Pediatric Emergency Care 27:900-906, 2011)
- Know what you and your staff are comfortable with
- Please do not perform diagnostic studies unless you are treating at your facility
  - Less radiation at pediatric centers
- Remember collaboration
  - Telemedicine
  - Critical care team assessment
  - Collaborative arrangements